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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,136	10/17/2003	Robert Peter Ison	213411.00029	8259

27160 7590 12/10/2008
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EXAMINER	
GISHNOCK, NIKOLAI A	

ART UNIT	PAPER NUMBER
3715	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/687,136	ISON ET AL.	
	Examiner	Art Unit	
	Nikolai A. Gishnock	3715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *25 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) *1-3,15-18 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-14 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

In response to the Applicant's amendments filed 8/25/2008, claims 4 & 19 are cancelled. Claims 1-3, 5-18, 20, & 21 are pending. Claims 1-3, 15-18, & 20 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 5, 6, & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrenk et al. (US 4,091,550), hereinafter known as Schrenk, in view of Kalley (US 7,129,706 B2), hereinafter known as Kalley.

4. Schrenk teaches a system for providing operation, diagnostic, procedure or maintenance training, comprising: a simulation server that receives and sends feedback according to a probe event (link comprises an A-D converter which receives data over conductors and transmits corresponding digital data over conductors to memory locations, 5:49-54); a mechanical mock-

up of at least a part of a system on which the training is required (simulated piece of electronic equipment, 3:42-53), the mechanical mock-up having a plurality of probe points (test points T1-T12, T14-T17, T18, T19-25, T27 & 28, 3:54-65), each one of said probe points being respectively connected to one of said electronically readable memories that respectively store a unique identifier code ({simulator} data processor has designated memory locations, having logical array tables, which comprise probe detection means for storing a different {unique} digital test point condition signals, representing a simulated voltage condition, at each one of the test points, 5:3-13); a host computer comprising means for communicating with a simulation server (student scope display and keyboard input, connected through other parts of the system through a cable, 6:L3-9), and means for associating each unique identifier code with a corresponding probe event (array tables V and R comprise test storage means for storing test point digital signals representing a simulated voltage or resistance condition, respectively, at each of the test points, 5:13-18), passing a probe point event to the simulation server (data processor communicates with receiver and VOM {Volt-Ohm Meter} through a hybrid computer link, 5:28-45), and determining a response of the simulation server to the probe event (By monitoring all test points, the computer "knows" which point is touched; VOM needle is deflected according to the setting of the VOM control knob, the test point touched, and the test point condition data stored in array tables V and R, 6:37-41); and simulated diagnostic equipment having at least one probe that can be maneuvered to contact any one of the probe points ({VOM} detector probe that is adapted to comate with the test points in the receiver, and is sufficiently large enough to be handled manually by a student using the system, 4:62-66), means for reading the unique identifier code when one of the probe points is contacted by the probe (data processor communicates with receiver and VOM through hybrid computer link, 5:28-6:2), means for communicating with the host computer in order to pass each unique identifier code to the host

computer and to receive feedback from the host computer (5:49-54; It is implied the host computer incorporates the simulation server and causes it to run, thus it is connected to it), and means for processing the feedback to determine a display value to be displayed on the simulated diagnostic equipment (Link also includes a D-A converter which receives digital data from memory and transmits a corresponding tester indicating signal over conductor to VOM, 5:63-66) [Claim 21]. Schrenk also teaches an article comprising: an electronically readable memory (data processor including memory comprising logical arrays, 5:3-21) connected to a mechanical mock-up of a system or a machine (data processor communicates with receiver and VOM through a hybrid link, 5:28-45), for emitting a computer readable modulated electrical signal upon electrical contact with a probe of a simulated diagnostic tool (VOM probe has a low voltage on tip which completes a circuit when it touches a test point, 6:35-41); the signal comprising a unique identifier code (logical arrays comprise probe detection means for storing a different digital test point identification signal for each test point touched by probe, 5:9-12) to determine a probe event that indicates electrical contact between the probe and a probe point on the mechanical mock-up (By monitoring all test points, the computer "knows" which point is touched, 6:37-41) [Claim 21].

5. What Schrenk fails to teach is wherein the electronically readable memories are located on the piece of electronic equipment to be tested, forming part of it, explicitly transmitting the unique identifier code through the probe upon electrical contact, where the probe event is indicative of a commencement and termination of the electrical contact [Claim 21]. However, Kalley teaches a part tester, which is adapted to electronically read unique identifying information affixed to a part (1:66-2:29). In the primary embodiment, Kalley teaches a battery tester with a probe for reading a barcode affixed to a battery part being tested (see also Figure 3, Items 40 & 60). Note that Kalley also teaches an embodiment where the identifying

information is coded into an electromagnetic signal, including an electrical signal, from a chip associated with the battery {part}. Kalley also teaches requiring the device to read the unique identifying information only when the cable is attached to the battery (2:44-48), thus Kelley teaches an event indicative of a commencement of the electrical contact. It would be obvious to one of ordinary skill in the art to affix Kalley's chip, associated with a part to be tested, to the simulated testable electronic part of Schrenk, and to transmit a *unique identifier code* as an electronic signal from a memory to the simulated tester, as in Schrenk, where the memory is located in the tested part, and is communicated to the tester by a probe, and where the event signals the commencement {and conversely, a termination} of an electrical contact, as connections are commonly both made and broken, as taught by Kalley. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have the electronically readable memory containing unique indentifying information about a test point on a mechanical mock-up to be tested, as taught by Schrenk, located on and forming part of the mechanical mock-up, to be read by a probe, and identifying the commencement of an electrical contact, as taught by Kalley, in order to prevent fraud or cheating by students using the simulator, because the simulated part itself would contain the encoded correct answer to the instruction requiring the student to use the tester, rather than solely in the simulator [Claim 21].

6. Schrenk teaches wherein each of the electronically readable memories respectively comprise a microelectronic circuit that is activated to output the unique identifier code when the probe contacts one of the probe points to which the microelectronic circuit is connected (data processor, with memory comprising probe detection means; data processor is disclosed to be a microcomputer, which is inherently a microelectronic circuit, 5:3-21) [Claim 5].

7. Schrenk teaches wherein the probe activates the microelectronic circuit when it contacts the probe point by supplying an electrical current through the connection to the microelectronic circuit (VOM probe has a low voltage on it, which completes a {microelectronic} circuit when it touches a test point, the computer "knows" which point is touched, 6:35-41) [Claim 6].

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrenk, in view of Kalley, as applied to claims 5, 6 & 21 above, and further in view of Krauss et al. (US 2002/0191363 A1), hereinafter known as Krauss.

9. Schrenk and Kalley teach all the features as demonstrated above in the rejection of claims 5, 6, & 21. What Schrenk and Kalley fail to teach is wherein the electronically readable memory comprises a touch memory button [Claim 7]. However, Maxim/Dallas Semiconductor Corp.'s iButtons are old and well-known in the art. Krauss teaches an electrical device using an information memory embodied as a memory button for transferring characteristic data pertaining to the device (Abstract, Para. 0028 & 0028; also, Figure 1, Item 12). The electronically readable memory used in the invention of Schrenk would be implemented as a memory button, which could be attached to the mechanical mock-up, as taught by Kalley. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have implemented the electronically readable memory of Schrenk, in light of the teachings of Kalley, as a memory button, as further taught by Krauss, in order to simplify the storage of parameters such as the V and R test point condition data [Claim 7].

10. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrenk, in view of Kalley, as applied to claim 21 above, and further in view of Fordham et al. (US 5,067,901), hereinafter known as Fordham.

11. Schrenk and Kalley teach all the features as demonstrated above in the rejections of claim 21. Schrenk teaches a simulated Volt-Ohm Meter (VOM, 4:35-45) having two conductors; a conductor to a detector probe (4:62-66), and a conductor to ground (4:44-45). What Schrenk and Kalley fail to explicitly teach is wherein the simulated diagnostic tool comprises an electronic multimeter having two probes [Claim 8]. However, Fordham teaches an apparatus for simulating a multimode meter (multimeter) having a pair of test leads (Abstract, 1:58-61, 2:52-53; also, Figure 4, Items 16a & 16b). The conductor of Schrenk connected to ground would be connected to a probe, rather than permanently connected to ground. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have incorporated a pair of probes, as taught by Fordham, into the Volt-Ohm Meter of Schrenk, in light of the teachings of Kalley, in order to allow a student to probe other connections on a simulated system, based on a selected refernce voltage other than ground [Claim 8].

12. Schrenk teaches wherein the simulated diagnostic tool comprises a simulated multimeter (VOM, 4:35-45) with a mode selector input (scale selector knob, 4:46-61), and a communications processor for communicating with the host computer (converter receives digital data from memory locations and transmits a corresponding tester indicating signal to VOM, 5:63-66) [Claim 9]. Schrenk teaches the use of A-D and D-A converters for translating the digital data of the simulation for display on an analog VOM (5:46-66). What Schrenk and Kalley fail to teach is where the multimeter is digital [Claim 9]. However, Fordham teaches the use of a simulated digital multimeter, displaying digital display signals (Abstract, and 1:44-56). The analog VOM of Schrenk would be substituted for a digital multimeter. Therefore, it would have

been obvious to one of ordinary skill in the art, at the time the invention was made, to have substituted the VOM of Schrenk, in light of the teachings of Kalley, with a digital multimeter, as taught by Fordham, in order to simply the link between the digital simulator and the VOM, and also to teach a student to read a digital multimeter rather than an analog VOM [Claim 9].

13. Schrenk teaches wherein the means for communicating with the host computer comprises means for communicating the mode selection input to the host computer to determine a set of simulation parameters maintained by the simulation server that are to be associated with the display value (scale selector knob {is} operated by the student to identify the desired sensitivity of the tester on the volts AC, volts DC, and resistance scales, 4:46-61; the sensitivities of the scales are inherently selection parameters; the display value is a conventional meter movement on the VOM that operates a deflection needle, behind which are various scales inscribed on the face of the meter, 4:35-42, of which the scale selector knob selects between; also, input 125 provides a means of sensing the state or position of the VOM control switch, 5:41-43; this input is communicated to the data processor through the hybrid link, 5:28-31; also, 6:61-66) [Claim 10].

14. Schrenk teaches an instructor station that may be used to control the simulation server to simulate system faults (the training system also comprises an instructor scope display unit, 6:10-24, also Figure 6, Item 210; the instructor unit is shown to have a two-way connection {at Figure 6, Item 212} to the data processor, Figure 6, Item 180; therefore, the instructor unit inherently communicates with the data processor's control unit, Figure 6, Item 183; also the test point device can simulate both normal equipment operation and operation when certain components have failed, 2:18-26; the system is programmed to simulate DC voltage and resistance-to-chassis-ground measurements for normal and abnormal operation due to one type of failure, 6:44-47) [Claim 11].

15. Schrenk teaches wherein the instructor station further permits an instructor to monitor a training exercise (the training system also comprises an instructor scope display unit {and a} data processor, 6:10-24; the function of the software system is to: Drive and monitor the VOM), guide a trainee through a training exercise (display text material explaining the operation of VOM and receiver, and provide a simple structure for student question/answer dialog, 6:10-24), create a simulation program (software routines and functions for coding instructional modules, 6:67-8:58; also, SETUP routine for altering the instructions {provided} to the student, 8:63-68), and to select preprogrammed system faults the invention can simulate both normal equipment operation and operation while certain components of the equipment have failed, 2:20-23; the word “certain” implies that the system faults are predetermined) [Claim 12].

16. Schrenk teaches an electronic memory in communications with the host computer for storing student responses to training exercises (during operation, a student proceeds through a series of instructions and questions programmed in the instruction modules, based on his{/her} response, the routines set pointers denoting text to be displayed, instructional paths, repeat paths for errors, etc., 7:25-35; the setting of pointers is inherently storing their new addresses) [Claim 13].

17. Schrenk teaches wherein the host computer further comprises a look-up table for associating the unique identifier code with one of the probe points to identify the probe point event (array tables V and R, 5:8-21; for cross-referencing test point identifications with simulated conditions), and a procedure for communicating the probe point event to the simulation server (data processor communicates with receiver and VOM through a hybrid link, 5:28-31; using the procedure of 6:25-49, etc.) [Claim 14].

Response to Arguments

18. Applicant's arguments with respect to claims 5-14 & 21, filed 8/25/2008, have been considered but are not persuasive.

19. Applicant argues at page 8 & 9 that no mention or suggestion of a simulation server is made in Schrenk, because the data processor, display, and keyboard unit are all part of a same computer or machine. However, simulation server is disclosed to be a computer. Schrenk discloses a computer that performs all the claimed functions of the host computer and the simulation server, as above. Applicant's instant claim 21 recites that the simulation server receives a probe event and sends feedback according to a probe event; and further recites that a host computer receives a unique identifier code from a probe on the diagnostic equipment and "translates" it into a probe event, causing a value to be displayed. Thus both the simulation server and host computer perform the same steps for the same purpose. Thus, Examiner's position is that the host computer and the simulation server as claimed are the same computer. Schrenk teaches one computer to perform these functions, as demonstrated above; thus Schrenk anticipates the limitation. In light of Kalley's unique identifier code, it would further be obvious to one of ordinary skill in the computer art to merely provide one computer to fulfill both the host computer and simulation server roles as claimed, either by physically incorporating extra hardware in the host computer or by providing software in the host computer for performing the server's role. Additionally, Applicant's Figures 3a and 3b, Items 84, 86, & 88 seem to teach embodiments where the simulation server can be either integrated or separate from the host computer. Merely integrating or disintegrating the functions of the simulation server and the host computer are construed as a mere obvious design choice, which fails to distinguish over the prior art of Schrenk and Kalley. Thus, Applicant's arguments are found non-persuasive.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolai A. Gishnock whose telephone number is (571)272-1420. The examiner can normally be reached on M-F 8:30a-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan M. Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/3/2008
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